Report

on

Big Data & Fintech

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Big Data in FinTech - Benefits and Importance

FinTech is a particularly "heated" issue in the world of finance, where big data is being used., FinTech, or financial technology, refers to technical innovation in the financial industry and might include technology applications in retail banking, financial literacy, online trading, peer-to-peer lending, and other sectors.

What makes Big Data “BIG”?

The concept of gathering data to improve consumer experiences isn't new. From small-town greengrocers to big-city bankers, bits of data have long been used to build a better image of their clients. The “BIG” in big data, on the other hand, offers firms with a treasure trove of consumer information that has the potential to turn the financial world on its head. The value of big data will increase as the Internet of Things (IoT), mobile technology advances, and improved authentication mechanisms become available. As a result, fintech firms will continue to spend heavily in data science departments in order to focus on data collection and processing. So, formerly underbanked and underserved audiences now have access to new financing opportunities.

Big data has three distinct V Characteristics:

Volume – Traditional technologies are incapable of processing the massive amounts of data that a big data platform must handle.

Velocity - Data must be processed in real-time, which is a necessity for the majority of enterprises.

Variety - A strong big data platform should be able to handle a variety of data formats, including unstructured data such as audio, tweets, status updates, and videos.

Big Data Applications In Daily Life

We have highlighted 05 industry verticals that are adopting Big Data, how they are applying the technology, along with effective examples.

In Banking

Be it in the case of cash collection or financial management, big data has been making banks more effective for each industry. The technology's application has reduced the struggle of the customers, generating the bank more revenue and making their ultimate insights more clear and comprehensible. Ranging from identifying fraud, simplifying and streamlining transaction processing, enhancing understanding of customers, optimizing trade execution, and facilitating an advanced customer experience, Big Data offers a range of applications. An interesting instance of a company utilizing Big Data in this sector is that of Western Union. The organization facilitates an omnichannel approach that customizes consumer experiences by processing over 29 transactions per second and compiling all the

data onto a common platform for statistical modeling and predictive analysis. JPMorgan Chase and Co, being a large bank, generates a massive amount of data and has applied Big Data technologies, primarily Hadoop, for dealing with this data. Big Data Analytics allows the bank to generate insights for customer trends and offer those reports to their clients as well as to conduct individual examinations and generate swift reports.

In Education

When it comes to the Education industry, the data gathered from the students, faculty, courses, and results is humongous, the analysis of which can generate insights effective for enhancing the operations and working of educational institutes. From boosting effective learning, enhancing International recruiting for universities, helping students in setting career goals, reducing university dropouts, allowing for precise student evaluation, improving the decision-making process, and enhancing student results, Big Data plays an integral role in this sector. An excellent example here would be that of the University of Florida. The university adopts IBM InfoSphere for extracting, loading and transferring data via multiple resources, IBM SPSS Modeler in case of predictive analytics and data modeling, and IBM Cognos Analytics for analyzing and predicting student performances. Different variables ranging from the student's grades, background, demographics, as well as economic background help measure the assess dropout chances for the students. This aids the university in setting its policies and facilitating timely intervention for students on the brink of dropping out. We also have companies facilitating big data services to educational institutes. An example of one such company would be Panorama Education. This is a management platform for school districts and administrators + the learning skills of students, stay updated on their progress, and enhance interaction among teachers, students, families, and the staff.

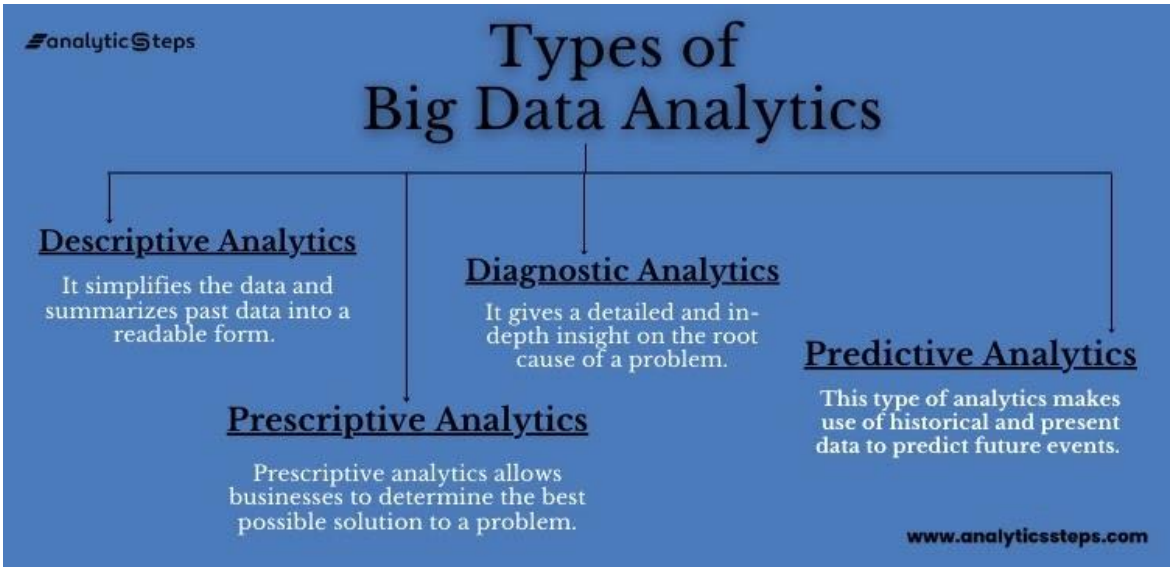
The platform's data facilitates a holistic perspective of every student, from their attendance to their behavior in classrooms, their academic performance along with their social-emotional learning. It facilitates insights that aid in detecting at-risk students at the initial stage and aid educators in supporting students in required areas.

In Media

The hype for the traditional approaches of consuming media are slowly fizzling out as the modern approaches of consuming content online via gadgets becomes the new trend. With the enormous amount of data being generated as a result, big data has successfully paved its way into this industry. Be it in helping to predict what the audience wants, in terms of the genre, music, and the content as per their age group, offering them insights regarding customer churn, optimizing the media streaming schedule of customers, making product updates more effective in terms of time and cost, and in contributing towards effective advertisement targeting.

An excellent example of how big data has played a hand in revolutionizing media platforms would be Netflix. The technology not only influences the series invested in by the platform but also how the series is bestowed to their subscribers. The viewing history of the user, even including the points where they have paused the video for any particular show, impacts everything from the customized thumbnails to the contents we observe on the “Popular on Netflix” section.

Yet another effective example would be that of Viacom18. The company’s big data platform is built on Microsoft Azure where it experiments with multiple upcoming technologies. The company has been employing big data analytics for ensuring viewer retention amidst break slots between program segments by pinpointing the appropriate times to hold commercial breaks, owing to which the platform has been successful in retaining viewership even amidst commercial breaks for driving substantial revenue for themselves and the advertisers.



In Healthcare

Big Data plays an integral role in enhancing modern healthcare operations. From reducing treatment costs, predicting epidemic outbreaks, avoiding preventable diseases, enhancing overall life quality, predicting the income gained by daily patients to arrange staffing, using Electronic Health Records (EHRs), adopting real-time alerts to facilitate instant care, adopting health data for more effective strategic planning, to reducing frauds and errors, the technology has fully revolutionized the healthcare sector. A credible example of Big Data in healthcare is that of Mayo Clinic. The platform adopts big-data analytics for aiding in detecting multiple condition patients and improving their life quality. This analytics can also detect at-risk patients and offer them greater health control and basic medical intervention.Yet another example is MedAware. This is an Israeli startup that is attempting to battle the disturbing trend of detecting errors in advance, which would in turn help in saving money, goodwill, and of course the lives of patients.

In Agriculture

In a field like Agriculture, big data analytics propels smart farming and precision agriculture operations which in turn saves costs and unleashes fresh business opportunities. Some vital areas where big data is put to work include meeting the food demand by supplying farmers with updates regarding any alterations in rainfall, weather, and factors impacting crop yield, playing a role in propelling smart and accurate use of pesticides to aid farmers in accurate decision making in relation to pesticides, management of farm equipment, ensuring supply chain efficiency, in planning when, where and how to plant seeds and apply chemicals and also in ensuring food safety by gathering data on humidity, temperature, and chemicals for examining a growing plant's health.

Bayer Digital Farming, a Bayer Group unit, set up an application that adopts machine learning and AI for weed identification.

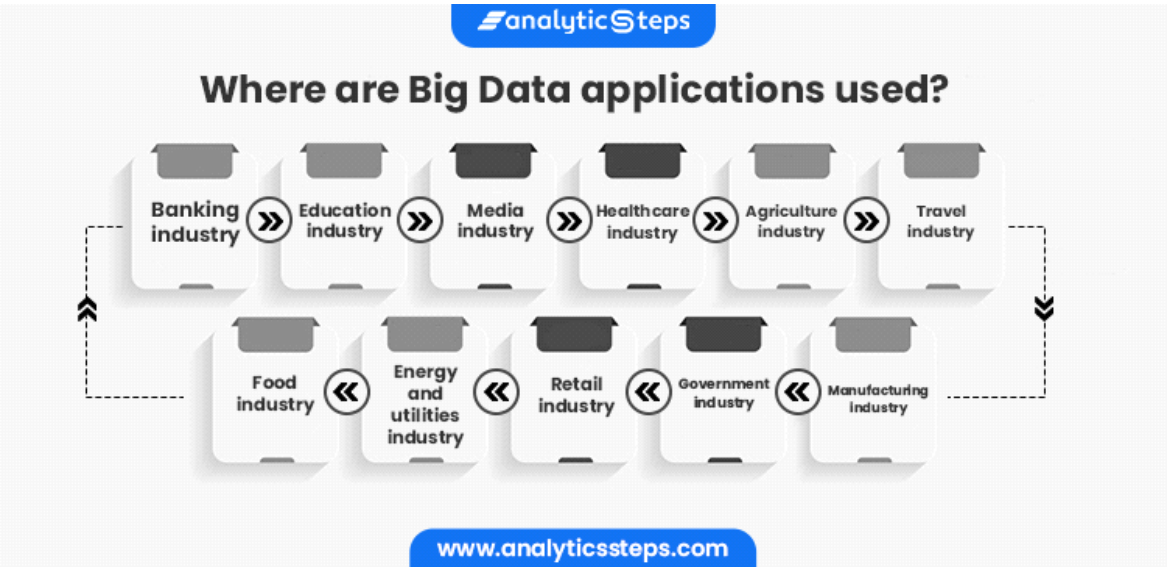
Farmers share captures of weeds in the app and then match the picture against a comprehensive Bayer database (having around 100,000 photos) for detecting the species. This app intercedes at the appropriate time, protecting the crops and enhancing yields.

A Schneider Electric division, Digital Transmission Network (DTN), facilitates agricultural information solutions and market intelligence to its customers. Through DTN, farmers and commodity traders can keep track of updated weather and pricing data for handling their business better.

In Government

Irrespective of the nation, governments face an extensive level of data on a day-to-day basis. This is largely owing to the in-depth updates they have to keep of the different records and databases of their citizens, their growth, geographical surveys, energy resources, and so on. This data is required to be examined and studied, becoming an ally for the government in its operations. The government uses this data in primarily two areas, in its welfare schemes and in the case of cybersecurity. In the case of Welfare Schemes, the data is used for making swifter and updated decisions in case of political programs, in detecting areas that require attention, in keeping track of agriculture fields of prevailing land and livestock as well as in overcoming national challenges like terrorism, unemployment or poverty. In the case of Cyber Security, the analytics is deployed for tasks like deceit recognition and to ensnare tax evaders. A useful example of Big Data's application by the government is in the case of the Department of Homeland Security (DHS). For safeguarding security, the Department of Homeland Security (DHS) makes use of an intrusion identifying system for sensors which holds the ability to analyze internet traffic both in and out of Federal systems apart from identifying attempts of malware and unsanctioned access. The National Oceanic and Atmospheric Administration (NOAA) is a platform that consistently gathers data through space-based sensors, land, and the sea. A big data approach is used by the platform for gathering and examining extensive data amounts to conclude the correct information.

What is Big Data In Fintech?



Big data in finance refers to the petabytes of structured and unstructured data that may be utilized by banks and financial organizations to predict consumer behavior and develop strategies.The financial sector creates a large amount of data. Structured data is information that is maintained within a company to give crucial decision-making insights. Unstructured data is accumulating from a variety of sources in ever-increasing numbers, providing considerable analytical potential.Emerging fintech is using big data to forecast client behavior and generate sophisticated risk evaluations, setting them apart from traditional financial institutions. Disruptive fintech and challenger banks can react to a changing market thanks to the speed of real-time data. They may flip to aggressive methods at any time, leaving the major banks struggling to stay up. Big banks are like strong diesel-powered tanks, whereas data-driven fintech is like electric scooters that can leap over potholes and take sharp turns. Fintechs can make better judgments and provide more personalized consumer experiences thanks to their capacity to handle big data volumes. Fintechs may utilize big data to understand their consumers on a one-to-one basis, rather than guessing or covering their backs with cautious risk assessments.

Benefits of Big Data in Fintech Industry

Emerging Fintechs can benefit from big data analysis in four ways:

- Customer Orientation

Fintechs may utilize big data to develop thorough user profiles and precise client segmentation strategies, allowing them to customize their services to their specific demands. Individualized services may be provided using sophisticated modeling approaches that take into account an individual's risk perception, age, gender, money, location, and even relationship status.

- Enhanced Security

While fraud is a prevalent problem in the digital banking sector, big data may assist fintech in developing accurate fraud detection systems by detecting any odd transactions. Fintechs may also use digital applications to keep consumers informed about security concerns and secure their money.

- Improved Risk Assessments

Fintech businesses that specialize in big data analytics may integrate data from a variety of sources to guarantee that no stone is left unturned. Fintechs can operate with more financial certainty, manage cash flow, and give consumers competitive rates thanks to improved risk assessments. The way banks think about risk is changing as a result of predictive analytics.

Big Data can be used in FinTech indifferent ways. By using Big Data Analytics and technology businesses can improve their financial strategies.

1. Use of Big Data in FinTech to develop strategies
2. Importance of Big Data in FinTech Industry
3. Big data is in high demand in finance for a variety of reasons:
4. Lack of Personal Connection with the customers.
5. Users expect to be able to address their problems without having to go to a bank office, but this makes gathering information on clients more difficult. Mobile gadgets can be of assistance.
6. They let companies gather many sorts of information, such as geolocation, the most common user interactions, user behavior, and browsing history. This information may then be utilized to make up for a lack of face-to-face connection with clients.

FinTech's social media footprint is growing.

Users make purchases and engage with companies using social media, which is no longer only a platform for connecting with friends and family. Examining user behavior on social media is critical for FinTech firms to gain insights and apply them when selling products or services. Insurers, for example, may create unique plans based on social media data, and banks can use social media data to create credit scores.

- Expectations of customers are shifting.

Customers want businesses to not just meet their requirements, but also to anticipate and surpass them. This is impossible without consumer information. To provide tailored offers for clients, a FinTech company should collect data from numerous channels such as their mobile app, website, wearables, social media, and smart devices.The client experience has altered as a result of online banking. You no longer need to visit physical sites or wait days for transactions to be completed. Fintechs have developed cross-border financial services that enable real-time data sharing. It allows buyers and sellers to conduct business without friction.

Fintech has driven conventional players to adapt by allowing for more personalized alternatives in financial services. Fintech firms may be more nimble and respond rapidly to changing market conditions since they are founded on contemporary technological platforms.

- FinTech is becoming increasingly competitive.

The FinTech sector is quickly expanding, attracting an increasing number of entrepreneurs, startups, and established businesses every day. The ability of a FinTech product to deliver a service is critical to its success in this competitive industry. Big data enables businesses to optimize their operations in real-time and provide their customers with the finest services possible based on hard facts. Reduced operating expenses allow firms to dedicate resources to marketing and decrease pricing for customers, allowing them to stay ahead of the competition. As a result, FinTech companies must automate their operations in order to save money, and big data insights can assist.

Conclusions

The fintech sector is quickly changing. All financial institutions' client experiences and expectations have altered as a result. Customers may now have a more personalized and tailored experience thanks to artificial intelligence, machine learning, and big data.Customer experience has evolved into a differentiator and a primary driver of customer expectations. Fintech has been able to steal consumers away from traditional financial institutions as a result of this.One of the reasons for the growing acceptance of fintech businesses and non-traditional financial institutions, according to industry analysts, is the better client experience.

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About

Chartered Accountant with 8 years of experience in SOX, Internal Audit and Compliance domain with Six Sigma Certification

Experience

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Apr 2021 - Present10 months

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American Express

5 years 4 months

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Dec 2015 - Oct 20182 years 11 months

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Groups

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